Certificate Number: Q10561

Certificate Number: E17276

FBR5000 - FBR5010

FAST RECOVERY BRIDGE RECTIFIERS

PRV : 50 - 1000 Volts
Io : 50 Amperes

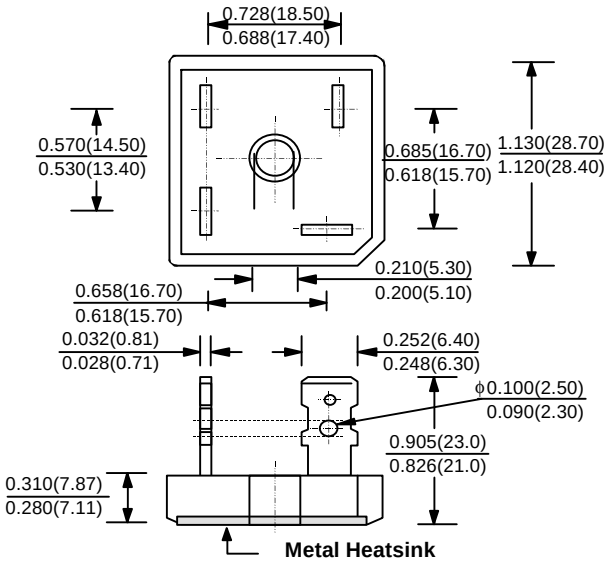
FEATURES :

* High case dielectric strength
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Fast switching for high efficiency
* Pb / RoHS Free

MECHANICAL DATA :

* Case : Molded plastic with heatsink integrally mounted in the bridge encapsulation
* Epoxy : UL94V-O rate flame retardant
* Terminals : plated .25" (6.35 mm). Faston
* Polarity : Polarity symbols marked on case
* Mounting position : Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency.
* Weight : 17.1 grams

BR50



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

RATING	SYMBOL	FBR 5000	FBR 5001	FBR 5002	FBR 5004	FBR 5006	FBR 5008	FBR 5010	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Current Tc = 55 °C	$I_{F(AV)}$	50							A
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	I_{FSM}	400							A
Current Squared Time at t < 8.3 ms.	I^2t	664							A^2S
Maximum Forward Voltage drop per Diode at I_F = 25 A	V_F	1.3							V
Maximum DC Reverse Current Ta = 25 °C	I_R	10							μA
at Rated DC Blocking Voltage Ta = 100 °C	$I_{R(H)}$	1.0							mA
Maximum Reverse Recovery Time (Note 1)	Trr	200				300	500		ns
Typical Thermal Resistance per diode (Note 2)	RθJC	1							°C/W
Operating Junction Temperature Range	T_J	- 50 to + 150							°C
Storage Temperature Range	T_{STG}	- 50 to + 150							°C

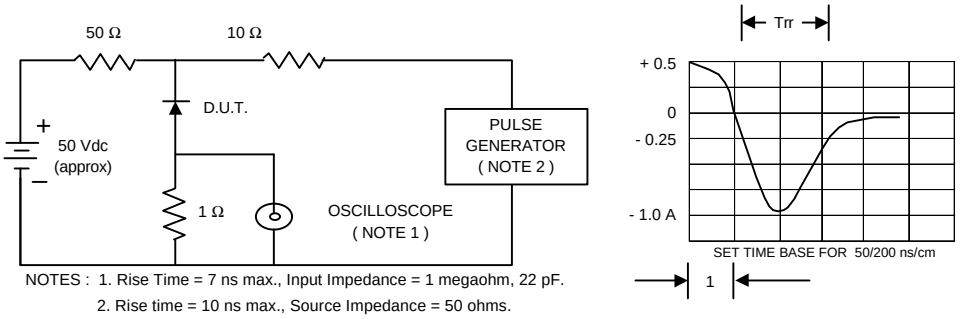
Notes :

1) Measured with I_F = 0.5 Amp., I_R = 1 Amp., Irr = 0.25 Amp.

2) Thermal resistance from Junction to Case with units mounted on a 9"x5"x4.6" (22.9x12.7x11.7 cm) Al-Finned Heatsink.

RATING AND CHARACTERISTIC CURVES (FBR5000 - FBR5010)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
2. Rise time = 10 ns max., Source Impedance = 50 ohms.
3. All Resistors = Non-inductive Types.

FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

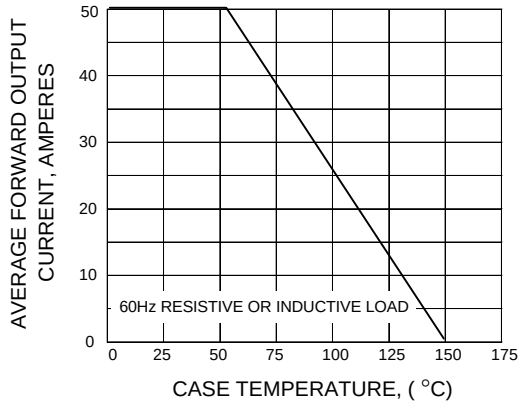


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

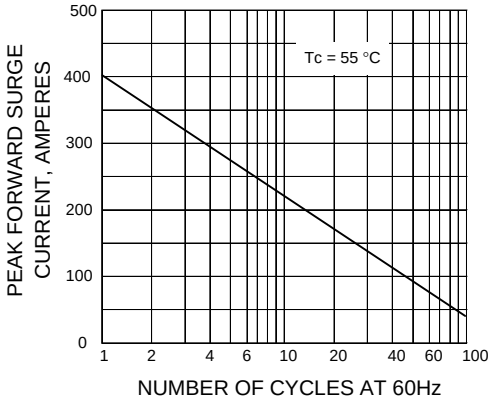


FIG.4 - TYPICAL FORWARD CHARACTERISTICS PER DIODE

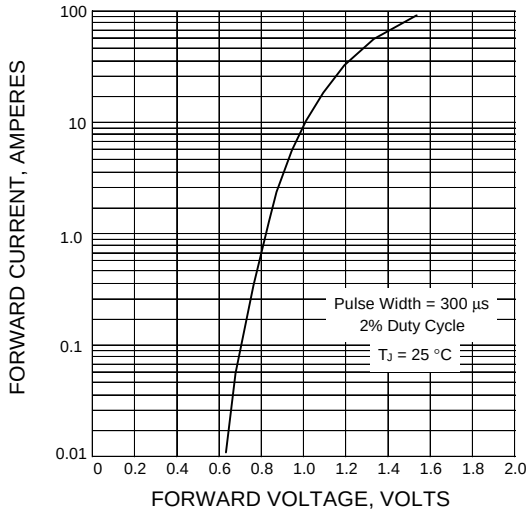


FIG.5 - TYPICAL REVERSE CHARACTERISTICS PER DIODE

